



Northern Rockies Ledger

*Considerations for the 2007 Fire Season
from the Northern Rockies Coordinating Group*

Hazy Days of Summer

#3 - August 10, 2007. The smoke from wildland fires annoys many people living in the Northern Rockies. It irritates eyes and sinuses, inhibits the view of the country around us, and for some can create very serious symptoms.

The behavior of smoke depends on factors including the fire's size, location, topography and the weather. In mountainous terrain where inversions are common, smoke often fills the valleys where generally people live. Smoke levels can be hard to project even with good weather forecasts. A wind that clears out smoke from a nearby fire might also bring in smoke from another fire. Smoke levels also tend to change constantly.

When cold air in the valley gets trapped under a layer of warm air we get a smoky inversion. It doesn't lift until the cold air in the valleys warms up, rises, and mixes with the warmer air and disperses the smoke. It seems counter intuitive that smoke over a fire would be colder air, but even with burning fuels it can remain cooler than the upper air layer.

A smoke inversion reduces fire behavior because there is no heating sunlight and less oxygen but firefighters often cannot be safely deployed in these areas. With smoky conditions, they can't see clearly to comply with a basic safety edict of 'know where the fire is at all times'. The pilots of helicopters and airtankers can't operate safely in thick smoke either since their missions are generally close to the ground and rely mostly on visual cues.

With the extremely dry fuels, dangerous fire behavior and rugged country, we know that the assigned equipment, aircraft and firefighters are having only intermittent success extinguishing these large fires. Our focus remains on initial attack and getting the new fires out while they are small to eliminate the risk, cost and smoke of a large fire.

Smoke contains carbon monoxide, carbon dioxide and very small particulate matter that can penetrate deep into the lungs. Factors such as the concentration of smoke, the duration of exposure, age, and individual susceptibility determine whether some experiences smoke-related health problems. Several studies indicate that healthy people generally do not suffer long-term health problems from smoke. Nonetheless, care should be taken to reduce smoke exposure as much as possible. For sensitive groups such as the elderly, children, and individuals with asthma and other respiratory diseases or cardiovascular disease, the impacts can be very serious at low levels of smoke.

As smoke levels change, residents and visitors can choose what action is appropriate for each individual situation. Tools to understand how smoke levels correlate to health impacts are available on the Montana Department of Environmental Quality (DEQ) or Idaho DEQ websites. As you prepare your home in the spring for the possibility of wildfire or determine your summer vacation plans, consider these health guidelines and plan ahead for varying smoke levels during fire season.

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